

AIR METEOROLOGIST
INTEREST BADGE


Date Passed _____ Signed _____

1. Know the basic structure of the atmosphere by:
 - a) explaining the composition of the atmosphere; _____ 1a
 - b) explaining the layers of the atmosphere; _____ 1b
 - c) defining the ICAN standard atmosphere. _____ 1c
2. Explain what is meant by:
 - a) pressure; _____ 2a
 - b) QNH; QFE; QNE; QFF; _____ 2b
 - c) stability and temperature distribution; _____ 2c
 - d) temperature gradients. _____ 2d
3. Explain Buys Ballots law. _____ 3
4. Explain the different ways in which fog is formed as well as day and night visibility. _____ 4
5. Demonstrate and understand the purpose of the following instruments:
 - a) Wet and dry-bulb thermometers _____ 5a
 - b) Barometer. Show that air has weight and pressure. _____ 5b
 - c) Anemometer. Show that the wind has force and pressure. _____ 5c
 - d) Windvane. Build a simple model of a wind vane. _____ 5d
 - e) Rain gauge. Build a simple model of a rain gauge. _____ 5e
6. Describe the measurement of inland and coastal station pressures and
 - a) Name the properties of ISOBARS. _____ 6a
 - b) Describe the types of pressure distribution. _____ 6b
 - c) Explain the variation in air pressure due to altitude, and point out some resulting problems for engines, for flight path hazards and for the pilot himself. _____ 6c
7. Describe the composition of water vapour and explain: saturation; condensation; sublimation; evaporation; relative humidity; dew point and vapour pressure. _____ 7
8. Do the following:
 - a) Define pressure gradient force and geostrophic wind. _____ 8a
 - b) Discuss diurnal variation of the surface wind. _____ 8b
 - c) Understand berg winds; sea breezes; land breezes; and indicate six or more ways how a pilot, about to land, can identify wind direction. _____ 8c
 - d) Have passed the Airmanship Scoutcraft Badge, or complete parts 6 and 7 of its requirements. _____ 8d
9. Make a simple forecast from a weather map with special reference to winds, temperature and barometric pressures.
 Understand the main forms of airframe icing and engine icing and explain the types of ice accretion in cloud: rime, clear ice, pack snow and freezing rain. _____ 9a
 - b) Explain the effects of ice accretion on the performance of an aircraft. _____ 9b
10. Report, either in writing or orally, on a visit to a meteorological station covering the following:
 - a) instruments and their uses
 - b) charts used
 - c) instructions issued to pilots. _____ 10